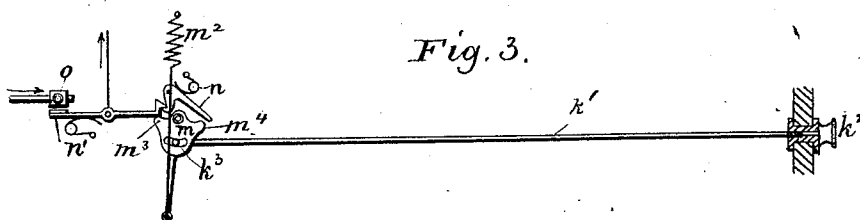
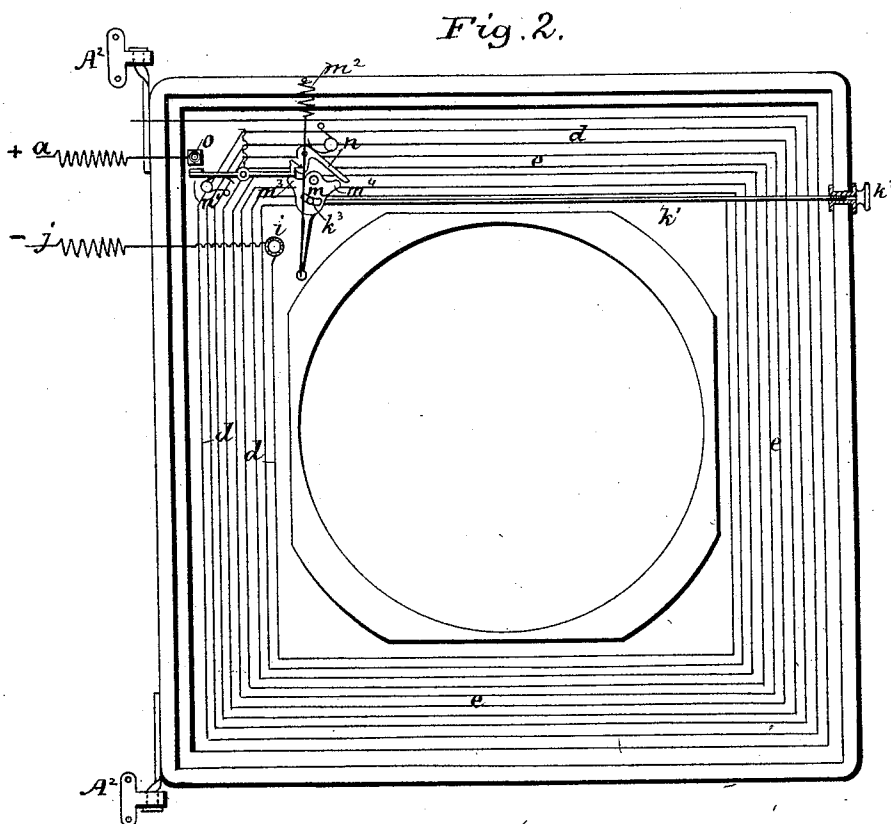
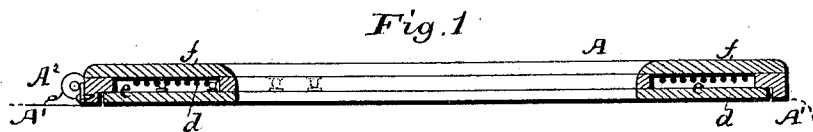


(No Model.)

A. D. LAGRELLE.
REGULATOR FOR ELECTRIC HEATERS.

No. 573,670.

Patented Dec. 22, 1896.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALEXANDRE DAMIEN LAGRELLE, OF LOUVRES, FRANCE.

REGULATOR FOR ELECTRIC HEATERS.

SPECIFICATION forming part of Letters Patent No. 573,670, dated December 22, 1896.

Application filed January 29, 1894. Serial No. 498,281. (No model.) Patented in France November 18, 1893, No. 234,155.

To all whom it may concern:

Be it known that I, ALEXANDRE DAMIEN LAGRELLE, a citizen of the French Republic, and a resident of Louvres, Seine and Oise, in the Republic of France, have invented certain new and useful Improvements in Regulators for Electric Heaters, (for which I have obtained Letters Patent of France, dated November 18, 1893, No. 234,155,) of which the following is a specification.

My invention relates to the construction of water-closet seats and appliances for the communication, by means of electricity, of a certain amount of heat to the same, so as to render such seats more comfortable than heretofore and to prevent them from giving a sensation of cold. According to the intensity of the current and the less or greater conductivity of the conductor, that is to say, according to the resistance opposed to the current by the conductor, the greater or less will be the heat produced. It will be readily understood that by placing in the circuit of a current the intensity of which is known a suitable resistance there can be obtained sufficient heat for warming.

My invention is illustrated in the accompanying drawings, wherein the same letters of reference refer to the same parts in all the views.

In the drawings, Figure 1 is a central vertical section of a construction embodying my invention; Fig. 2, an under side view of the same, and Fig. 3 an enlarged view of the automatic cut-off referred to hereinafter.

The seat may be arranged in the usual way and receive either below or above it the electrical appliances below described and which may vary in their arrangement and to suit the construction of the seat itself.

I construct the seat of an upper and lower frame, each containing the usual central aperture. Between such frames there is provided a border made of wood or other suitable material coming out flush with the inner surfaces of said frames. I also preferably provide an outer border coming out flush with the surfaces of said frames, and between the frames and the borders I place the electrical resistance as follows: Upon an ordinary seat A', I fit the warming-seat A, made preferably of

wood. This seat is also by preference pivoted or hinged to the ordinary seat, so that it can be raised or lowered, as desired. For that purpose it is provided with pivots, which take into bearings A², fixed to the ordinary seat.

The conductor-coils are indicated at *d*. The number and diameter of said coils are such as to obtain the resistance necessary to produce the quantity of heat required for the warming process. Said coils are housed in a recess *e* in the seat, the recess surrounding the central perforation in the seat, and are placed in a substantially horizontal plane and fixed by means of pegs or staples to the under side of the board *f*, which forms the seat.

The automatic switch controlling the electrical connection of the resistance is shown in detail in Fig. 3 and in proper relation with the closet-seat in Fig. 2. It comprises expansion-rod *k'*, the length of the free part of which may be regulated by means of nut *k*². The end *k*³ of said rod *k'* is provided with a stud which acts on the pivoted spring-actuated device *m*. Said device, having a slot to receive the stud on the end *k*³, can be tilted a short distance without the coaction of the rod *k* and be retained tilted forward or backward by the spring *m*², having one end attached to the outer end of the pivoted device *m*. Said device *m* has adjacent to its pivot two horns *m*³ *m*⁴. The horn *m*³ is used to tilt one end of a spring-actuated piece *n'* and break the circuit between the terminal *o* and said piece *n'*, to the pivot of which piece *n'* the warming-wire is connected. Alongside of the device *m* the spring-actuated latch *n* is placed to engage with the hooked end of the piece *n'* and prevent its oscillation, but when the expansion-rod *k'* contracts the horn *m*⁴ of the device *m* bears against the long arm of the latch *n* and releases the spring-actuated piece *n'*, the circuit being then closed by the spring of said piece *n'*.

The electrical current, generated either by a dynamo-machine or battery, enters the seat A at *a*, whence it passes to the terminal *o*. When the seat is closed down and is being warmed, the circuit is closed by the spring-actuated piece *n'*. The final conductor-coil leads to terminal *i*, whence the conductor *j* leads the current out of the apparatus.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with a water-closet seat, an
5 electric resistance-coil *l* attached to the frame
of the seat and an automatic switch controlling the electrical connection of the resistance and consisting of an expansion-rod *l'*,
a pivoted spring-actuated piece *m* adjusted
10 to be thrown by said rod, a spring-actuated

contact-maker adapted to be thrown out of contact by part *m*, and a spring-actuated latch cooperating with the contact-maker, substantially as set forth.

In witness whereof I have hereunto set my
15 hand in presence of two witnesses.

ALEXANDRE DAMIEN LAGRELLE.

Witnesses:

GEORGES LAURENT,
CH. CHIERRY.